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CANCER INCIDENCE IN A POPULATION LIVING NEAR A NUCLEAR MATERIALS PROCESSING PLANT AT FERNALD, OHIO. SM Pinney*, R Wones, R Qi and PA Succop (University of Cincinnati, Cincinnati, OH 45267)

A study of cancer incidence in persons who lived near the Fernald uranium processing plant, part of the US Department of Energy nuclear weapons complex, was conducted. This study used previously collected physical examination and questionnaire data of participants of the Fernald Medical Monitoring Program, including questions on medical history, residential history, and demographic variables. Only new cancer diagnoses, not known to the participant at the time of the first examination, were used in this analysis. Standardized Incidence Ratios (SIR) were calculated, using both Surveillance, Epidemiology and End Results (SEER) and Ohio Cancer Incidence Surveillance System data files for comparison. Findings included a statistically significant elevation in SIR's for both urinary system cancer (1.69, 95% Confidence Interval [CI]=1.06, 2.56) and malignant melanoma (2.22, 95% CI=1.11, 3.97). Further logistic regression analyses of urinary system cancer revealed a strong association with the joint effect of distance from the plant and using a private well as the water source (Odds Ratio=0.38, 95% CI=0.30, 0.49). This effect was present only in those living within a 2.5 mile radius of the site, and the strength of the effect decreased rapidly with increasing distance from the site boundary. A statistically significant elevation in prostate cancer also was noted, but may be due to screening detection bias. Medical record confirmation was obtained for 99% of all cancers.

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CANCER INCIDENCE, MORTALITY AND SURVIVAL AMONG STATUS INDIANS IN ONTARIO, 1968-1991. MR Chaudhry* and L Marrett (Cancer Care Ontario, Toronto, ON Canada)

The purpose of this study was to determine time trends for cancer incidence and mortality among Status Indians (SI) and to compare cancer survival among Status Indians in Ontario with that of the general population of Ontario. SI were identified using the Indian Registry. Linkage of the Indian Registry, the Ontario Cancer Registry and Ontario mortality data was used to ascertain cases and to determine person-years at risk. Standardized incidence and mortality rates and ratios and 95% confidence intervals (CI) were calculated for three time periods: 1968-75, 1976-83, 1984-91. Cox regression was used to compare survival of SI to the general population, controlling for age. Although SI have lower incidence and mortality rates, over time their rates are approaching those of the general population. The incidence rate ratio for all sites combined increased from 0.65 (CI 0.57, 0.74) in 1968-79 to 0.80 (CI 0.74,0.86) in 1980-91 for females and 0.52 (CI 0.46, 0.77) to 0.71 (CI 0.65,0.77) for males. A similar trend was observed for incidence and mortality by site, except for a decline in mortality due to cervical cancer. SI experienced poorer survival for all cancer sites combined ($p<0.001$ for each sex and time period). In addition, female SI experienced poorer survival for breast cancer ($p<0.05$) in 1980-91 and cervical cancer ($p<0.05$) in 1968-79, but had similar survival for cancers of the colon and rectum and lung. In both time periods, SI males experienced poorer survival for prostate cancer ($p<0.05$) and cancers of the colon and rectum ($p<0.05$), but no difference in survival for lung cancer. Treatment and stage data may help explain the poorer survival among SI.

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CANCER MORTALITY FOLLOWING RADIATION THERAPY FOR PEPTIC ULCER. Z Abylkassimova*, R Kleinerman, C Land, B Weinstock, M Stovall and ML Griem (National Cancer Institute, Bethesda, MD 20852)

Most information on radiation-related stomach cancer risk comes from the Life Span Study (LSS) of Japanese atomic bomb survivors. However, stomach cancer mortality rates are much higher in Japan than in the U.S., which makes uncertain the applicability of LSS findings to the U.S. population. A unique cohort of U.S. patients, who were irradiated for peptic ulcer to control gastric acid secretion, provides a different perspective on radiation-related stomach cancer risk. Cancer mortality data were analyzed for 1859 subjects treated by radiotherapy during 1936-1965 (average age at treatment, 49) and 1860 subjects treated by surgery or medication (average age, 45). A mean stomach dose of 14.8 gray was estimated from treatment records. Tracing of subjects through 1997 found that 82% of the cohort was deceased; the average follow-up was 25 years. Compared to U.S. all-site cancer mortality rates, risk was significantly increased among radiotherapy subjects (observed/expected=1.65, 95% confidence interval 1.5-1.8) and non-radiotherapy subjects (1.12, 1.0-1.3). Specifically, stomach cancer risk was significantly increased for both radiation and non-radiation therapy patients (3.20, 2.4-4.3 and 1.52, 1.0-2.2, respectively). The relative risk for stomach cancer for the radiation-treated vs. non-radiation groups, adjusted for sex and age at treatment, was 2.4 (1.5-3.9), and the excess relative risk per gray was estimated at 0.095 (0.034-0.020). The dose-related absolute excess stomach cancer risk per gray, directly standardized by age and sex, was 0.41 (0.14-0.68) cases per 10^4 person-years.

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CERVICAL CANCER SCREENING AMONG BRAZILIAN WOMEN: COVERAGE AND SOCIO-DEMOGRAPHIC DIFFERENCES IN SELF-REPORTED USE OF THE PAPANICOLAOU (PAP) TEST. A Pinho* and I França-Junior (School of Public Health, University of São Paulo, São Paulo Brazil)

A cross-sectional study was carried out in São Paulo city, Brazil, to investigate the coverage of Pap test among women in reproductive age and the socio-demographic differences in self-reported use or non-use of test. The study included 1172 women aged between 15 and 49 years, randomly selected through a household-sample frame. Overall, 89% of women reported having had at least one Pap smear during their lifetime; 80% reported a Pap test in the last 3 years, and 64% having had their last Pap smear in the past year. Women aged between 35 and 49; married; that had complete high school and those of high socioeconomic level self-reported higher rates of Pap test use. Among those women who reported having never had a Pap smear, the majority aged between 15 and 24 (69%); was single with or without regular sexual partner (66%), and of the lowest socioeconomic level (73%). The following reasons were given by those for having never had a Pap test: they believed it unnecessary or had no gynecological problems (37%); embarrassment or fear (29%); difficulties of getting an appointment or no healthcare access (10%); financial and transportation problems (5%) and other reasons. Despite high coverage of the Pap test, the mortality rate of cervical cancer has remained constant and its incidence is still high among Brazilian women. Reduction of these rates depends on the increase of human and financial resources addressed to women healthcare and on the implementation of public health policies focused on eliminating the socio-demographic differences in the use of preventive services.